

REMARKS

Claims 1-9, as amended, and new claims 33 and 34 appear in this application for the Examiner's active consideration. Claim 1 has been amended to further define the axially elongated projections of the core as "projecting radially outwards beyond the circumferential side wall portion of said core," support for which is found in the specification, e.g., at page 6, lines 27-28 of the originally filed specification. New claims 33 and 34, depending from claim 1, recites a preferred embodiment with a securement means, support for which is found in the specification, e.g., at page 7, lines 4 - 6 of the originally filed specification. As no new matter has been introduced by any of these changes or additions, they all should be entered at this time.

Claims 10-25 are canceled and process claims 26 to 32 are withdrawn at this time. It is understood that the process claims will be rejoined and allowed when claim 1, from which they directly or indirectly depend, is allowed.

Claim 4 has been rejected under 35 U.S.C. 112, second paragraph, as allegedly being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The Office Action states that it is unclear from the language of claim 4 how the radially outer portion of the *stem* serves as an extension of the *projections*. Applicants respectfully disagree, and submit that the feature of claim 4 is well described in the originally filed application, for instance with reference to Figs. 1 and 2. The following passages of the original description, and especially the underlined portions, discusses the subject matter of claim 4:

Page 2, lines 1 to 7 of the application as originally filed:

The rib-like projections may take the shape of ribs extending from the circumferential side wall. If desired, the ribs may extend beyond the second end of the core by way of anchoring stems. Another modification is devoid of the ribs. The rib-like projections are stems projecting from the second end of the core at locations slightly spaced radially inwardly from the circumference of the second end. The projections may be formed by a plurality of fins disposed in a row parallel with the axis of the core or with elongation of the respective stem.

Page 6, lines 24 to 30 of the application as originally filed:

The implant 20 includes a core 22. The core 22 is solid and defines a first end 24, a second end 26 and a centerline 38 extending centrally of and between the ends 24, 26. In the embodiment shown, two rib-like projections 30-32 having an axial elongation,

parallel with the axis 38, project radially outwards from the circumferential wall 34 of the core 22, and, longitudinally from the first end 24 to the second end 26. In a modified embodiment, the projections extend beyond the second end, defining two anchoring extensions or stems 31, 33.

Last full paragraph of specification on page 7 as originally filed:

In summary, therefore, the anchoring projections or ribs 30-32 may extend only over the axial length of the core 22 or, in a second embodiment, may extend beyond the second end 26. The ribs may have the configuration of ... a series of back biting plate-like fins over at least a portion of their length.

Thus, Applicants submit that one of ordinary skill in the art, when reading claim 4 in light of the above passages and the specification as a whole, would understand that the anchoring stems can form an extension of the axially elongated projections, and that the fins of the projections continue along at least a portion of the length of the stems. Therefore, claim 4 is believed to be sufficiently clear. This conclusion is further supported by the actions of both the European and Canadian Patent Offices, which have each granted equivalent claims in European Patent No. 1 587 458 and Canadian Patent No. 2,416,348, respectively. Thus, Applicants earnestly seek reconsideration and request the withdrawal of the rejection.

Claims 1-9 have been rejected under 35 U.S.C. 102(b) as allegedly being anticipated by Mendes et al. (U.S. Patent No. 5,580,353; hereinafter “Mendes”). Mendes describes a prosthetic patella implant for fixation to the remaining portion of a natural patella and for sliding over a femoral articulating member. Mendes does not, however, describe a bone implant having at least two axially elongated projections “... extending along said core and projecting radially outwards beyond the circumferential side wall portion of said core...”, as defined in claim 1 as amended.

The Office Action characterizes Mendes as disclosing “at least two axially elongated projections (upper elements 40 in Fig. 14), (i) extending from and along said core...” Applicants strongly disagree with this interpretation of Mendes. Element 40 of Fig. 14 of Mendes does not extend “along said core” as suggested and therefore cannot be considered to be the same as the axially elongated projections defined in claim 1 as amended. Mendes describes element 40 as follows:

...patella implants typically include one or more protrusions, or pegs, 40 which are inserted into the natural patella and help firmly fix, typically with the addition of

suitable adhesives, cements or other bonding materials, the implant and the remaining portion of the natural patella. Protrusions 40 may be integrally formed with the implant or may be connected to it in some suitable fashion, as by screwing, for example. The one or more protrusions 40 may be of various shapes, including, but not limited to square or rectangular (see FIGS. 12 and 13). Preferably, protrusions 40 are circular in cross-section, or cylindrical (FIGS. 3, 6 and 9). Most preferably, the implant includes a single central circular protrusion 40 (FIGS. 3, 6 and 9). (Mendes, col. 4, lines 16-28; emphasis added)

Each of Figs. 3, 4, 6, 7, 9, 10, 12 and 14 of Mendes illustrates the peg(s) of element 40 to be protruding from the bottom surface of the patella implant, and not “along said core and projecting radially outwards beyond the circumferential side wall portion of said core” as defined in claim 1 as amended. The pegs of Mendes could at best be considered as an extension from the second end of the claimed bone implant, but in no way can they be equated to the protrusions projecting from the circumferential side wall portion of Applicant’s implant core. Positioning two or more pegs along the sidewalls of element (130, 230, 330) of Mendes was not described or suggested in the cited reference.

Moreover, Mendes indicates that it is most preferred for the implant to include a single peg, centrally located on the bottom surface. Nowhere is it disclosed or even suggested by Mendes to position at least two peg(s) “extending along said core and projecting radially outwards beyond the circumferential side wall portion of said core”, as defined in claim 1 as amended. Thus, Mendes cannot anticipate claim 1.

The presently claimed structure also provides unexpected benefits compared to what is disclosed in Mendes. In particular, the present implant includes at least two projections “extending along said core and projecting radially outwards beyond the circumferential side wall portion of said core” such that, when inserted into a corresponding socket formed in the bone, the implant is able to engage via these projections corresponding retaining grooves formed in the bone. In this way the projections as defined hold the implant in the desired circumferential position and support the implant *in vivo* as forces are exerted on the prosthetic mounted thereon.

Furthermore, the pegs of Mendes are optional features only, and protrude from the bottom surface of the implant merely to help fix the implant to the residual patella bone. The focus of Mendes was not on these pegs, but on a means to enhance the strength and durability of

patella implants at or near the periphery of the circular or elliptical implant material where the thickness of the material is at its smallest and prone to damage. In contrast, Applicants have developed the claimed device for mounting prosthetics, including dental prostheses and the like, and as a result the claimed protrusions have been developed to be useful for holding the implant in the desired circumferential position while also supporting the implant *in vivo* as forces are exerted on the prosthetic mounted thereto, e.g., when chewing or biting.

Therefore, claim 1 is both novel and inventive over Mendes, and in compliance with 35 U.S.C. § 102(b). Claims 2-4 and 7-9 are also novel and inventive over Mendes at least by virtue of their dependency on claim 1.

Claim 5 is also novel and inventive over Mendes because Mendes fails to teach fins on the projections inclined in a direction toward the centerline and the second end wall, whereby the tapping of the implant into an associated socket is facilitated and the withdrawal thereof from the socket is impeded by back biting orientation of the fins.

Claim 6 is similarly novel and inventive over Mendes because Mendes fails to teach elongated stems having, at least on part of at least one thereof, a plurality of fins inclined in a direction toward the axis and the free end of the respective stem whereby the tapping of the implant into the socket is facilitated and the withdrawal thereof from the socket is impeded by back biting orientation of the fins.

It is also submitted that new claims 33 and 34 are novel and inventive over Mendes because Mendes fails to teach a securement means, or a threaded bore, for fixing a prosthesis or healing cap to the core.

In sum, the present claims as amended are novel and inventive over Mendes. As a further support of this position, both the European and Canadian Patent Offices have granted substantively equivalent claims in European Patent No. 1 587 458 and Canadian Patent No. 2,416,348, respectively. Therefore, the rejection over Mendes should be withdrawn.

Based on the foregoing, the entire application is believed to be in condition for allowance, early notice of which would be appreciated. Should the Examiner not agree, then a personal or telephonic interview is respectfully requested to discuss any remaining issues and expedite the eventual allowance of this application.

Respectfully submitted,

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